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NASA Procedural Requirements

NPR 8705.5

Effective Date: July 12, 2004

Expiration Date: July 12,
2009**COMPLIANCE IS MANDATORY**[Printable Format \(PDF\)](#)

Subject: Probabilistic Risk Assessment (PRA) Procedures for NASA Programs and Projects

Responsible Office: Office of Safety and Mission Assurance[| TOC](#) | [Preface](#) | [Chapter1](#) | [Chapter2](#) | [Chapter3](#) | [Chapter4](#) | [AppendixA](#) | [ALL](#) |

Preface

P.1 PURPOSE

This NPR provides basic requirements for performing a probabilistic risk assessment (PRA) for a NASA program or project. It addresses technical and safety risk and does not address programmatic risk involving consideration of cost and schedule.

P.2 APPLICABILITY

- a. This NPR applies to NASA Headquarters and NASA Centers, including Component Facilities, and the Jet Propulsion Laboratory and service providers to the extent specified in their contracts with NASA.
- b. This NPR shall be used specifically for programs/projects that provide aerospace products or capabilities; i.e., space and aeronautics systems, flight and ground systems, technology demonstration/validation, and operations ([Requirement 32944](#)).
- c. This NPR is not required for other projects (such as research and technology development, training, or education); however, the PRA concepts and practices described within this document can be beneficial to other projects, so its application should be considered. The importance and scope (potential affects on public and worker safety, NASA significance, strategic importance, or schedule criticality) of the project/program being assessed is used to identify the extent of the risk assessment application.
- d. The applicability of this NPR for projects/programs that are already in progress depends on the criticality of the risk assessment to project/program risk management, the feasibility of compliance, and the extent of the completion of the project/program. Decisions concerning applicability for projects/programs in progress will be made on a case-by-case basis involving program/project manager recommendations to the Governing Program Management Committee, which shall have approval authority (Requirement 32947).

P.3 AUTHORITY

- a. 42 U.S.C. 2473(c)(1), Section 203(c) (1) of the National Aeronautics and Space Act of 1958, as amended.
- b. NPD 8700.1, NASA Policy for Safety and Mission Success.

P.4 REFERENCES

- a. Presidential Directive/National Security Council Memorandum Number 25 (PD/NSC-25), Scientific or Technological Experiments with Possible Large-Scale Adverse Environmental Effects and the Launch of Nuclear Systems into Space.
- b. NPD 8720.1, NASA Reliability and Maintainability (R&M) Program Policy.
- c. NPR 1000.3, The NASA Organization.

- d. NPR 1441.1, NASA Records Retention Schedule.
- e. NPR 7120.5, NASA Program and Project Management Processes and Requirements.
- f. NPR 8000.4, Risk Management Procedural Requirements.
- g. NPR 8715.3, NASA Safety Manual.
- h. Probabilistic Risk Assessment Procedures Guide for NASA Managers and Practitioners, August 2002, <http://www.hq.nasa.gov/office/codeq/doctree/praguide.pdf>.

P.5 CANCELLATION

None.

/s/ Bryan O'Connor

**Associate Administrator for
Safety and Mission Assurance**

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